

WHAT IS CLAIMED IS:

1. A modular wall segment for constructing a wall, comprising:

- (a) a first walling sheet of a selected two-dimensional shape and size;
- (b) a second walling sheet of said selected two-dimensional shape and size;

and

(c) a plurality of aerated concrete blocks contiguously located in a plurality of rows and columns between said first and second walling sheets to form a volume of consistent thickness of said selected two-dimensional shape and size;

said plurality of aerated concrete blocks being bonded on their opposite faces to said first and second walling sheets.

2. The modular wall segment according to Claim 1, wherein said plurality of aerated concrete blocks include a quantity of a bonding material between them to augment their securement together within the modular wall segment by said walling sheets.

3. The modular wall segment according to Claim 1, wherein the modular wall segment is formed on at least one end face with a slot for receiving a fastening element to secure the modular wall segment to other modular wall segments.

4. The modular wall segment according to Claim 3, wherein said slot extends longitudinally through all the aerated concrete blocks at the respective end of the modular wall segment.

5. The modular wall segment according to Claim 3, wherein said slot is defined by the two walling sheets projecting outwardly past the plurality of aerated concrete block at the respective end of the modular wall segment.

6. The modular wall segment according to Claim 5, wherein the modular wall segment includes a U-shaped channel member received in said slot.

7. The modular wall segment according to Claim 3, wherein one end face of the modular wall segment is formed with said slot, and the opposite end face of the modular wall segment is formed with a rib dimensioned to be received in said slot of another like modular wall segment.

8. The modular wall segment according to Claim 3, in combination with a fastening element dimensioned to be received in said slot to secure the modular wall segment to another modular wall segment.

9. The modular wall segment according to Claim 8, wherein said fastening element is a fastening bar dimensioned to be received in said slot of two aligned modular wall segments to secure them together.

10. The modular wall segment according to Claim 9, wherein said fastening bar is of a cruciform cross-section.

11. The modular wall segment according to Claim 9, wherein said fastening bar is of a T-cross section.

12. The modular wall segment according to Claim 11, wherein said fastening bar is of a hollow rectangular cross-section.

13. A composite modular wall segment for constructing a wall constituted of two wall segments each according to Claim 1, wherein said two segments are of the same dimensions, include walling sheets having planar outer faces, and are joined together at their planar outer faces to define the composite modular wall segment for constructing a wall.

14. The composite modular wall segment according to Claim 13, wherein said composite modular wall segment includes an insulating layer between said two joined segments.

15. The modular wall segment according to Claim 1, wherein said segment includes reinforcement cables passing through said plurality of aerated concrete blocks.

16. The modular wall segment according to Claim 15, wherein said reinforcement cables are passed through channels formed in said plurality of aerated concrete blocks and terminate in ends securable to load-bearing structures to provide protection against earthquakes.

17. The modular wall segment according to Claim 1, wherein at least one of said walling sheets is of the group consisting of plywood, gypsum board, cement-board, composition-board, plasterboard and wallboard.

18. The modular wall segment according to Claim 1, wherein said plurality of aerated concrete blocks are bonded by adhesive layers to said first and second walling sheets.

19. A building structure including walls made of a plurality of modular wall segments according to Claim 1 secured together.

20. A method of making a wall segment useable for constructing a wall, comprising:

(a) applying a first layer of glue between a first walling sheet and a first surface of a plurality of contiguously placed aerated concrete blocks arranged in a plurality of rows and columns;

- (b) applying a second layer of glue between a second walling sheet and a second surface of said plurality of contiguously placed aerated concrete blocks;

and pressing said first walling sheet against said first surface of said plurality of aerated concrete blocks and said second walling sheet against said second surface of said plurality of aerated concrete blocks, while said first and second layers of glue solidify.